

STROBE Statement—Checklist of items that should be included in reports of *cross-sectional studies*

	Item No	Recommendation	Page No
Title and abstract	1	(a) Indicate the study’s design with a commonly used term in the title or the abstract <i>a cross-sectional study</i>	1
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found <i>The study result presents a correlation between ADSs' recovery rates and a well-designed therapeutic environment. So, there is a need for evidence-based design (EBD) of rehabilitation centres with full compliments of a therapeutic architectural environment and integration of mental health services into routine care in sub-Saharan Africa. Limitations include that analyses were cross-sectional and thus may not deduce causal directions, and the authors based the result on self-report.</i>	1
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported <i>Today, the world is confronted with the difficulty of dealing with the ever-increasing number of drug addicts. The global budgetary health allocation for treatment and rehabilitation has increased significantly. 3.3 million people succumb to alcohol-related deaths worldwide yearly, which accounts for about 5.5% of all death.</i>	1-3
Objectives	3	State-specific objectives, including any prespecified hypotheses <i>i. Identifying the psychosocial well-being needs of ADS in the selected rehabilitation centres</i> <i>ii. Examining the TACs of an ADRC</i> <i>iii. Analysing the effect of TACs on the recovery process of substance abuse patients.</i>	1 & 11
Methods			
Study design	4	Present key elements of study design early in the paper <i>(1). Patients,</i> <i>(2). Interventions (exposure),</i> <i>(3). Outcomes and</i> <i>(4). Study methods (a cross-sectional study)</i>	6-9
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection <i>The study was a case study of four rehabilitation centres in Nigeria’s busiest cities; Lagos, Abuja, Port Harcourt, and Enugu. The authors collected data via survey questionnaires, an in-depth interview guide, an observation guide, and a checklist of TACs in a healthcare facility.</i> <i>The authors interviewed twelve selected sufferers and specialists from the four (4) rehabilitation centres and Three (3) interviewees from each of the rehabilitation facilities (The 12 participants were purposively selected from the four (4) randomly selected rehabilitation facilities in the four busiest cities (Lagos, Abuja, Port-Harcourt and Enugu) across four (south-west, north-central, south-south and south-east) of the six geopolitical zones in Nigeria.</i>	7-8

The authors selected 3 out of the 12 participants from the four facilities. The three participants comprised: 1. the chief consultant, 2. a specialist nurse and 3. an alcohol drug sufferer (ADS). Therefore, three from ADRS-RC, Lagos, three (3) from NLSHRC, Abuja, three (3) from 180DC, Port Harcourt and three (3) from NPBS, Enugu total of 12 participants). Also, the study used observation guides and checklists to record data on the available TACs in the four facilities that influence the patient's psychosocial well-being. The authors used a semi-structured questionnaire to identify the psychosocial well-being needs (PWNs) of ADSs. The breakdown of the number of questionnaires administered and the responses are in table 1. The authors designed these questionnaires to be completed by the patients (ADSs). Four research assistants undertook the data gathering process for twelve weeks during the morning and evening, during weekends (Fridays to Sundays). Data collection started on July 15 and ended on September 30, 2022.

Participants	6	<p>(a) Give the eligibility criteria and the sources and methods of selection of participants</p> <ul style="list-style-type: none"> • The authors used a multi-stage sample method to select the participants in Nigeria. • The authors used clustered sampling selection to pick four (4) out of six (6) geopolitical zones in Nigeria. • Through stratified sampling selection, the researcher picked four (4) cities from the four (4) geopolitical zones with the highest amount of alcohol and drug abuse. • The researcher employed simple random sampling selection to pick four (4) rehabilitation facilities, one (1) each from the selected four cities in Nigeria. • 	7-8
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Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	
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Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe the comparability of assessment methods if there is more than one group	
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S/N	Types of Variables		Data Representation	Examples	Sources Of Data
1.	Quantitative variables	Discrete Variable	Counts of individual items or values.	Number of patients, and staff in the rehabilitation facilities	Interviews, surveys, and fieldwork.
		Continuous Variable	Measurements of continuous or non-finite values.	ages of participants distances of the spaces	Interviews, surveys, and fieldwork. Photographs, drawings,
2.	Categorical variables	Nominal Variables	Groups with no rank or order between them.	colours in the spaces	Observation Photographs, drawings, and posters. Works of art and literature.

			<i>Ordinal variables</i>	<i>Groups that are ranked in a specific order.</i>	<i>The Likert scale used in the attitudinal data collected throughout the research</i>	<i>Interviews and surveys.</i>	
Bias	9	<p><i>Describe any efforts to address potential sources of bias</i></p> <p><i>Therefore, for this study, the effort to control potential sources of bias included: the researchers creating a thorough research plan, using an appropriate statistical method, defining a target population and a sampling frame, employing simple random sampling for data collection, avoiding convenience sampling, accounted for dropouts or missing data, obtained complete data, avoided generalisation, placed interview or survey topics into separate categories, created data analyst blinding, intention-to-treat analysis, maintained detailed records, completed reporting of all prespecified outcomes.</i></p>					5.
Study size	10	<p>Explain how the study size was arrived at</p> <p><i>The study size was arrived at through</i></p> <p><i>i. Setting and location Nigeria divided into six (6) geopolitical zone.</i></p> <p><i>ii. The zone with (the busiest city) in Nigeria with high alcohol and drug consumption occurrence.</i></p>					7.
Quantitative variables	11	<p>Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why</p> <p><i>The quantitative data-psychosocial well-being needs were analysed using descriptive statistical analysis of the 7-point Likert scale and the result in charts, screen plots, and graphs. The questionnaire survey employed four volunteering staff of the selected facilities. SPSS version 21 (RRID: SCR_002865) was used to code and analyse the data.</i></p>					11.
Statistical methods	12	<p>(a) Describe all statistical methods, including those used to control for confounding</p> <p><i>Analysing the effect of TACs on the recovery process of substance abuse patients was done through descriptive statistical analysis of the 7-point Likert scale. And the result was illustrated in charts, screen plots, and graphs.</i></p>					11
		<p>(b) Describe any methods used to examine subgroups and interactions</p> <p><i>In-depth Interview guide: the authors conducted interviews with addiction therapists and specialist doctors from the four Nigerian case studies to ensure an optimum result.</i></p> <p><i>Observation guide: to record all the elements, spaces (indoor and outdoor space), amenities, and services provided in the rehabilitation facilities</i></p> <p><i>a Checklist to identify therapeutic architectural components (TACs) in a rehabilitation/healthcare facility.</i></p>					11
		<p>(c) Explain how missing data were addressed</p> <p><i>Well, I am not sure how the data got missing, but table 1 showed the distribution of the questionnaire (i.e. number administered and number retrieved).</i></p> <p><i>However, since we (research assistants) were not there to collect the questionnaires immediately from the medical staff. On taking the questionnaire to each rehabilitation facility, the authority asked the authors</i></p>					

		<i>and research assistant to drop the questionnaires at the rehabilitation facilities and come for them another day. So, I suppose the data lost was between the interval of administration and retrieval.</i>	
		(d) If applicable, describe analytical methods taking account of the sampling strategy <i>N/A</i>	
		(e) Describe any sensitivity analyses <i>N/A</i>	
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed. <i>Participants for Survey</i> <i>100 questionnaires among the users of four rehabilitation centres and industry specialists within the study areas.</i> <i>Participants for Interview</i> <i>The 12 participants were purposively selected from the four (4) randomly selected rehabilitation facilities in the four busiest cities (Lagos, Abuja, Port-Harcourt and Enugu) across four (south-west, north-central, south-south and south-east) of the six geopolitical zones in Nigeria.</i>	8
		(b) Give reasons for non-participation at each stage <i>N/A</i>	
		(c) Consider the use of a flow diagram <i>N/A</i>	
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders <i>characteristics of Participants</i> <i>i. Demographic- the participants in this study were about 100 for the survey and 12 for interviews</i> <i>ii. Clinical: alcohol and drug sufferers (ADSs)</i> <i>iii. Social: The participants were mentally sick patients, health workers and caregivers.</i>	8
		(b) Indicate the number of participants with missing data for each variable of interest <ul style="list-style-type: none"><i>• 10 participants with missing data in A&D referral services - rehabilitation centre, Surulere Lagos.</i><i>• 12 participants with missing data in New life Specialist Hospital and Rehabilitation Centre, Kurudu, Abuja</i><i>• 15 participants with missing data in 180 Degrees Centre Agip Estate, Port-Harcourt, Rivers</i>	8
Outcome data	15*	Report numbers of outcome events or summary measures <i>N/A</i>	
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included <i>N/A</i>	
		(b) Report category boundaries when continuous variables were categorized	

		<i>N/A</i>	
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	
		<i>N/A</i>	
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions and sensitivity analyses <i>In-depth Interview guide: the authors conducted interviews with addiction therapists and specialist doctors from the four Nigerian case studies to ensure an optimum result. Observation guide: to record all the elements, spaces (indoor and outdoor space), amenities, and services provided in the rehabilitation facilities a Checklist to identify therapeutic architectural components (TACs) in a rehabilitation/healthcare facility</i>	
Discussion			
Key results	18	Summarise key results with reference to study objectives <i>i. The study identified eight (8) psychosocial well-being needs (PWNs) in a healthcare facility: affiliation (relatedness), power, cognitive, achievement, autonomy, competence, meaning, and closure. ii. The study identifies nine (9) Therapeutic Architectural Components (TACs) that must be conceptualised intelligibly and sensibly in the healing environment design of a mental healthcare facility to facilitate the speedy recovery of mental health patients. iii. The finding shows that Therapeutic Architectural Components (TACs) have a positive impact on the recovery process of substance abuse patients. Therefore a Therapeutic purpose-built mental healthcare facility (ADRC) can facilitate ADSs' recovery process.</i>	11-
Limitations	19	Discuss the limitations of the study, taking into account sources of potential bias or imprecision. Discuss both the direction and magnitude of any potential bias <i>The authors provide more detail about the additional data they collected to tackle the problem of information bias and Selection bias. Specifically, we ensure prevention of interviewer biases under information bias and response biases under selection bias. This we did to ensure internal and external validity of a study. We also set up quality control programs for data collection to keep variability at a minimum because we used multiple observers. Again we discuss the imprecision of the results due to study size and the measurement of outcomes. The authors compared this study titled: “Psychosocial well-being needs of alcohol/drug sufferers and therapeutic architectural solutions in a rehabilitation centre, Nigeria: a cross-sectional study” with other studies in the literature in terms of validity, generalizability and precision, see page pages 25 and 26 in the original manuscript.</i>	25- 26
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, the multiplicity of analyses, results from similar studies, and other relevant evidence <i>In the discussion section, the authors attempted to give an interpretation of a study's results. The authors used an objective assessment of the findings from</i>	

the three (3) study objectives. In interpreting results, the authors consider the nature of the study and potential sources of bias, including a loss to follow-up and non-participation of respondents. We also considered confounding (“mixing of effects”), the results of relevant sensitivity analyses, and the issue of multiplicity and subgroup analyses. We also considered residual confounding due to unmeasured variables or imprecise measurement of confounders. The authors address the range of uncertainty in estimates, which is larger than the statistical uncertainty reflected in confidence intervals. Statistical uncertainty does not take into account other uncertainties that arise from a study’s design, implementation, and methods of measurement.

Generalisability	21	<p>Discuss the generalisability (external validity) of the study results</p> <p><i>Every healthcare project (including rehab facility) should begin with a review of existing literature on design interventions to improve patient outcomes, staff effectiveness and patient safety, users' decision on the project, and expected outcomes/benefits. Checklists can assist designers and users in evaluating existing conditions and in setting goals for new facilities planning and design. Design goals set and clearly defined at the beginning of a project can serve as research questions to be answered by post-occupancy surveys, data collection, and evaluation. Early healthcare organizations' operational model process alignment with the design goals creates a positive collaborative, emotionally, spiritually, and socially supportive environment. Research plays a vital role in helping us continue to understand the healthcare environment's effects better and identifying opportunities to make it an active agent for healing. Three kinds of research are Medical Model, which evaluates environmental impacts using biologically measurable data; Social Science Model, which evaluates user perception and behaviour; and the Holistic Model, which embraces an organization and its facility. TACs checklist from this study has identified four factors in a healthcare environment design that can measurably improve patient outcomes, which include- 1. reducing or eliminating environmental stressors, 2. providing positive distractions, 3. enabling social support and 4. giving a sense of control.</i></p>	25- 26
Other information			
Funding	22	<p>Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based</p> <p><i>N/A</i></p>	

*Give information separately for exposed and unexposed groups.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at www.strobe-statement.org.